Safety Advisory Committee
July 17, 2009
10:00 AM – 12:00 PM

Minutes

Committee Member	Representing	Present
Anderson, Erik	Materials Sciences Division	X
Banda, Michael J.	Computing Sciences Directorate	X
Bello, Madelyn	Human Resources Advisor	
Blodgett, Paul M.	Environment, Health and Safety Division	X
Floyd, Jim	Safety Advisory Committee Chair	X
Fujikawa, Brian	Nuclear Science Division	X
Ji, Qing	Accelerator & Fusion Research Division	X
Kadel, Richard W.	Physics Division	*
Kostecki, Robert	Environmental Energy Technologies Division	X
Lowden, Rosemary	Information Technology Division	X
Lukens Jr., Wayne W.	Chemical Sciences Division	X
Martin, Michael C.	Advanced Light Source Division	X
Nakagawa, Seiji	Earth Sciences Division	
Petzold, Christopher J.	Physical Biosciences Division	
Pollard, Martin	Genomics Division	X
Taylor, Scott E.	Life Sciences Division	
Thomas, Patricia M.	Safety Review Committee Secretary	X
Twohey, Daniel	Directorate/Operations	
Wong, Weyland	Engineering Division	X

Others Present: Jerry Bucher, Richard DeBusk, John Chernowski, Brandon DeFrancisci, Joe Dionne, Michelle Flynn, Howard Hatayama, Julie Henderson, Mike Kritscher, Don Lucas, *Ron Madaras (for Richard Kadel), Mike Ruggieri

Chairman's Comments – Jim Floyd

There was a correction to the attendance list for the June meeting.

New committee members Erik Anderson (Materials Sciences Division) and Rosemary Lowden (Information Technology Division) were introduced.

The Health, Safety, and Security (HSS) audit corrective action project teams are getting organized. We can expect to hear more from them in a few months.

ES&H Self-Assessment and the Future of Peer Reviews – John Chernowski

Integrated Safety Management Core Function 5, Feedback and Improvement, has two aspects, assessment and issues management. Self-assessment is the primary tool for

identifying deficiencies. LBNL has 3 elements in our environmental safety and health (ES&H) self-assessment program: Division Self-Assessment, Technical Assurance by Environmental Safety and Health Division (EHS) Subject Matter Experts, and Peer Review. Our peer review system has been Management of Environmental Safety and Health (MESH) reviews by the Safety Review Committee. It is anticipated that the Safety Advisory Committee (SAC) will continue to perform peer reviews.

The HSS audit found our feedback and improvement system to be generally consistent with Department of Energy (DOE) Orders 226.1A and 414.1C, but they found some opportunities for improvement. We received a lot of useful feedback from the review team. They advised that we could get better results from Division Self-Assessment by providing better guidance and training, and having a more division-specific focus. The HSS reviewers described the Technical Assurance program design and Lessons Learned database as positive attributes; however, they recognized that the program was not fully mature. They didn't spend as much time on evaluating the peer review system, except to comment that it lacks formal procedures.

Some aspects of the "red team" and "mini-HSS" reviews can be seen as successful models for improving the peer reviews. John Chernowski is asking for volunteers to join a Process Improvement Team. They are hoping to have a pilot system ready in Fall 2009 and start the peer reviews in early 2010.

One of the goals is to bring the process closer to the Division Directors. The response presentation by the Division Directors was a good feature of the MESH reviews. Jim Floyd envisions a complete circle with more front-end involvement of the Division Directors in determining the focus of the reviews. The ES&H peer reviews would be more like scientific peer reviews.

Michael Martin commented that the peer reviews should be a partnership with the Division Directors, not an "audit" like HSS. John Chernowski said that there was no specific direction given by the HSS reviewers. Wayne Lukens commented that it would be more useful for the reviews to have a narrower focus on a few aspects of ISM. He asked whether narrowing the focus would require the reviews to be more frequent. John Chernowski said that increasing the frequency might not be necessary, because the other forms of self-assessment ensure that all aspects of the ES&H systems are assessed. If problems are spotted in one division, we could assess the extent of condition and determine whether additional reviews are needed. Peer review team members may see different risk priorities than the Division Directors. In preparing for reviews, we should look at reports from Division Self-Assessments, Technical Assurance reviews, and previous MESH reviews to recommend subject areas to the Division Directors. The data preparation work for the division being reviewed should be streamlined and not duplicate what was collected for other reviews. We need to prevent "mission creep" and distinguish the Peer Reviews from the Division Self-Assessment.

Don Lucas will be presenting a roll-up report from the mini-HSS reviews to Lab Management. He offered to present the results to the SAC. Jim Floyd asked Don Lucas to brief the peer review team once it is formed.

For the pilot program, it was suggested that we work with the divisions that are due for the next set of peer reviews. There is time to work on improving the system while work is being done on other aspects of self-assessment. We need to have a plan in place by April 1, 2010.

Rosemary Lowden asked whether there would be additional changes or guidance on Division Self-Assessment. We do not expect any major changes to the Division Self-Assessment system for FY09.

EHS News – Howard Hatayama

- **Linking training to access control –** EHS and Information Technology (IT) are looking into the possibility of linking training completion to access control. The issue came up during a discussion with Berkeley Site Office (BSO) about the Bldg. 66 chemical incident. IT is conducting a feasibility study, to be completed by the end of FY09 (September 30). An initial ballpark estimate is that it would require about $7M initial investment and $1M/year maintenance. The $7M is based on the number of labs – the actual cost would depend on the building structures.

  There are a lot of questions that need to be answered before deciding whether to implement such a system. What happens if people suddenly discover they are locked out of their lab? Will it solve the problem of making sure only qualified people work in labs, or is there a better way to do this? Do other institutions have similar systems, and what are there experiences? Should one incident drive a major change in Lab policy? Should the system be implemented for all labs, or just for high-hazard areas? How would we handle spaces that are shared by more than one experimental group? Where are people actually going?

  EHS is considering whether a badge-swipe record should be required to track who is entering and leaving labs. This would require changes in Lab culture (always carrying badges, not holding doors open for each other). It could be difficult in area where people move frequently between labs.

  Committee members commented that the essential training to enter a lab should include both EHS courses and On-the-Job training. The access should be controlled by the person in charge of each lab rather than automatically triggered by a database. The issue should be discussed with the Division Directors. It should be discussed again at the next SAC meeting.

- **H1N1 response planning –** There are concerns that the flu virus may be evolving in the Southern Hemisphere during their winter and there could be a different

strain here during our next winter. A memo has been sent to Division Directors asking them to create Business Continuity Plans using an online tool. Divisions need to define the essential people and functions that would need to be continued during an emergency shutdown.

- **Facility radiation categorization process –** The Radiation Safety Committee is reviewing the process for knowing when new processes or materials are planned to be brought into buildings that may change the radiation safety category of the buildings. LBNL's intent is to keep all buildings out of Nuclear Facility status. The category affects the entire building.

- **HSS Corrective Action Plan status –** Activities have started for action items with a July 1 start date. Jack Salazar is the project manager. Improvements are needed in the overall process LBNL uses to develop requirements. Ron Pauer is leading the team working on improving the Job Hazards Analysis process. John Chernowski will be hiring a new Office of Contract Assurance person.

- **Safety incident –** Some summer interns climber over a stair railing behind the cafeteria and were spotted walking on the roof near the edge taking pictures. They were promptly escorted off site. LBNL is evaluating the physical controls to roof access. Hosts need to discuss safety requirements with summer guests and monitor their behavior. This group did not come to LBNL through the CSEE program, so they had not received the general safety orientation provided by CSEE.

Subcommittee on Chemical Explosion Incident Prevention—Don Lucas

There was a recent incident at Los Alamos involving nitric acid being mixed with acetone waste. Brown clouds resulted and the lab was evacuated. The incident is under investigation. Most of the recent chemical explosion incidents involve handling nitric acid waste. LBNL is separating the issue of acid waste handling from the issue of handling acids while in use so that the waste issues can be expedited. A one-page policy on nitric acid waste is being developed. It will require treatment before the end of the day that the waste is generated for any waste that is $\geq$5% nitric acid, or contains any concentration of nitric acid mixed with any organics or metals. Up to 5 gallons of waste can be treated in labs through approved benchtop neutralization procedures. There are 3 labs that have tried benchtop treatment. A list of all active and approved benchtop treatments is being compiled, so there will be examples for researchers who need to develop procedures. People who want to perform treatment must complete Chemical Hygiene and Hazardous Waste Generator courses, and receive on-the-job training in their procedure from Waste Management.

The draft policy is being sent to nitric acid users (identified by the Chemical Management System) for comment by next Friday. Once approved, the new policy will be communicated via email to nitric acid owners indicated by CMS, a Today at Berkeley Lab article, Division Safety Coordinator meeting, and people who have disposed of nitric

acid waste as indicated on waste requisitions. There was a question about whether the policy should be specifically added to Chemical Hygiene and/or Hazardous Waste Generator training. This is probably not a good way to communicate the policy because it only affects a small subset of people taking the courses.

The subcommittee is continuing to look at handling and storage of nitric acid and Piranha solution while in use. The concept is that LBNL will provide vented caps for containers. They are looking at available products.

They are not looking at perchloric acid issues at this time. Perchoric acid doesn't usually cause problems unless it is warm or concentrated.

There was a question about whether there may be a DOE Order issued in response to the recent incidents. This is not anticipated. The Operating Experience report is asking for feedback from the Labs. Berkeley Lab, Lawrence Livermore, and Los Alamos should work together to develop a DOE complex-wide Lessons Learned. Oak Ridge had a similar incident two years ago, so they are also watching to see what the other Labs decide to do.

Proposed Policy on Transportation of Research Samples – Don Lucas

Transport of most samples less than 1 lb./1 pt. can be included in the "materials of trade" exemption in DOT regulations. Certain hazard categories, such as pyrophorics, cannot be exempted. Engineered nanomaterials are considered hazardous materials when transported. The DOE guidelines for nanomaterials are very restrictive now, but may become less restrictive after there is more experience on the hazards of the materials. There can be exemptions to the quantity limits. Transport of cryogens falls under the same rules as compressed gas. There will be a Subject Matter Expert in Transportation (Kevin Haugh) and EHS (Gale Moline). The revised policy will be posted in the PUB-3000 e-room for comment.

Changes to Chapter 24 Training – Don Lucas

PUB-3000, Chapter 24 Training has been revised to reduce the volume by 2/3. There is no significant change in policy or impact on Divisions. Information on hazard-specific training requirements has been moved to the chapters addressing those hazards. It clarifies Line Management control of on-the-job training and Work Lead responsibility for identifying training requirements for their people. Work Leads can grant waivers to institutional training requirements based on the person already having sufficient knowledge, a low level of hazard, or work only performed on the University of California campus. There are some training requirements, such as General Employee Radiation Training, that cannot be waived because they required by regulation or DOE Order.

Electrical Safety Activity Hazard Documents (AHDs) – Richard DeBusk

The process for authorizing energized electrical work was benchmarked with other DOE facilities. About half of the Labs require task-based authorization for energized electrical work, and half allow a class-based authorization for testing, troubleshooting, or Lockout/Tagout (LOTO) verification.

Mike Wisherop has met with the Division Safety Coordinators and some of the workers who will be affected. An Electrical Safety Engineer will assist people in filling out the workbook for AHDs. About 6 AHDs have been started, and EHS is getting feedback on the process. Robert Candelario is one of the people participating in the pre-pilot. The official pilot program will begin in August and the results will be reviewed by October 31. Somewhere between 50 and 200 AHDs are expected. One way of reducing the number of AHDs is to limit the number of people doing LOTO verification. The electrical safety workbook analysis can be added to existing AHDs.

There are questions about how specific the work description needs to be. The boundaries of the work that is being authorized needs to be clearly defined.

The Facilities electricians have chosen to be authorized by a more restrictive task-based authorization.

People are having problems understanding both the AHD and Subcontractor Job Hazards Analysis workbook questions and need help to complete them. There are questions about whether we have sufficient resources to complete the AHDs on schedule. There may be changes to the process after the pilot project is completed in October. Some AHDs that are completed early may have to be modified after the pilot. The requirement is to have a draft AHD in the system. EHS is talking to BSO to clarify the requirement and due date.

Jim Floyd asked for volunteers from Divisions to work with Mike Wisherop on a subcommittee developing the electrical AHD process. Bob Mueller and Weyland Wong have already volunteered. The subcommittee would like to have someone who works in a lab.

There was a question about testing of voltage-rated gloves. EHS is considering setting up a centralized tracking and testing system, similar to what is done with radiation meters. Engineering Division already has a similar system in place for their gloves.

Cryogen Safety Improvement Plan – Joe Dionne

There is a subcommittee working on cryogen safety issues, including Michael Martin, Joe Dionne, Wayne Lukens, and Jim Floyd. The cryogen safety issues need to be separated from the pressure safety requirements. The first step is to analyze the risks and define hazard thresholds. John Seabury and Marty White are looking at the issues involved with

cryogen dewars in Buildings 70/70A. Lara Jain is working on training issues. She is putting together a questionnaire and will be interviewing cryogen users to determine their training needs. The subcommittee is also looking at vendor delivery and pick-up processes, and defining ownership of dewars. LBNL is benchmarking practices with other Labs.

If there are other issues that should be addressed, please provide feedback to Joe Dionne. Determining the appropriate PPE for various cryogen uses was suggested. The bulky gloves required for filling dewars may not be the best for work requiring finer manipulations of smaller quantities of cryogens. Non-nitrogen cryogens, such as helium, should also be looked at. Mike Kritscher asked for communication with the Mechanical Safety Subcommittee, which also addresses some cryogen hazards.

The meeting was adjourned at 12:00 PM
Respectfully submitted, Patricia M. Thomas, SAC Secretary